



## “Double pruning of grapevines: A cultural practice to reduce infections by *Eutypa lata*”

By: E. Weber, F. Trouillas, and D. Gubler

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- *Eutypa* dieback is caused by infection of fresh pruning wounds by spores of the fungus *Eutypa lata*. The visible symptoms on the perennial parts are *cankers* that gradually kill the vine. The symptoms on the foliage are *stunted growth* and shoot and leaf *distortion*. The expensive consequences for the grower are yield loss, extra pruning and cordon replacement costs, and reduced longevity of the vineyards.
- With no clear chemical treatment for *Eutypa*, the best control is through delayed pruning (Feb-March). This is because by pruning in February or March, there is less chance of rain (spores tend to splash around in the rain), and there is simply less of a window for the spores to infect before the wounds either heal in the good weather, or get flushed out by the spring sap.
- But the main constraint with delayed pruning is that growers with a limited labor force often need to start pruning in the winter to ensure completion before budbreak. This is why by getting rid of *most* part of the vine “brush”, the practice of double pruning, or *pre-pruning* (non-selectively pruning canes to 45-60 cm longer than the final spur length) has the ability to speed up the final selective pruning, thus allowing growers to prune large acreages in very short times.
- With this study, the authors hoped to answer 2 questions: 1) how far can *E. lata* move down the cane in the time between pre-pruning (inoculation, in this case) and final pruning? And 2) how early can vines be safely pre-pruned without compromising the next year’s growth? That is, without advancing budbreak and risking frost damage, or without reducing the wood carbohydrate reserves and risking lowering yields.
- To find the answers, the authors randomly divided 2 vineyards -a Chardonnay and a Merlot- and pre-pruned the resulting blocks in **October, November, December, January, or February**, with a final pruning for all of them in March. Each block was inoculated with *E. lata* spores immediately after pre-pruning. The trial was conducted for 2 seasons, 2000/01 and 2002/03.
- **Effect of pre-pruning date on length of cane damage.** The authors measured the length of vascular discoloration from the cut end. Because vascular discoloration may also be a natural response to a pruning wound, they also looked at how far down the cane they were able to isolate *E. lata*. Vascular discoloration was observed in every cane examined, sometimes as far as 12 cm down. But *E. lata* could never be recovered from further than 4 cm below the pruning cut. When pre-pruning occurred in winter months, *E. lata* was recovered from 40-65% of canes, compared to only 7-10% when pre-pruning took place in February. This was true both seasons.

• **Effect of pre-pruning date on budbreak, pruning weight and yield.** There was no effect. The authors believe that budbreak date was not affected probably because the final pruning (March) was the same for all treatments. If pre-pruning in October (only month when pre-pruning happened with leaves still on the vines) had any impact on carbohydrate accumulation, the extent was not enough to affect growth or yield the following year, compared to later pre-pruning dates.

In conclusion, unless traditional pruning can be delayed until March, double pruning is an effective cultural practice to reduce incidence of Eutypa in spur-pruned vineyards. This should allow large operations to pre-prune mechanically early in the season when equipment can still enter the vineyard, and delay final pruning until February or March.

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